

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A halftone phase shift mask blank comprising a transparent substrate and a phase shifter film thereon, the phase shifter film being composed of a metal silicide compound containing molybdenum, wherein

~~said metal is compound further contains:~~ at least one metal selected from the group consisting of tantalum, zirconium, chromium and tungsten, and

said metal silicide compound further contains at least one element selected from the group consisting of oxygen, nitrogen and carbon.

2. (Currently Amended) The halftone phase shift mask blank of claim 1 wherein said metal silicide compound is one compound selected from the group consisting of a silicide oxide, silicide nitride, silicide oxynitride, silicide oxycarbide, silicide nitride carbide or and silicide oxide nitride carbide containing molybdenum and at least one metal selected from the group consisting of tantalum, zirconium, chromium, and tungsten.

3. (Withdrawn) A method of manufacturing a halftone phase shift mask blank, comprising the steps of:

using molybdenum silicide as a first target and at least one metal silicide selected from the group consisting of tantalum silicide, zirconium silicide, chromium silicide, and tungsten silicide as a second target, and

carrying out reactive sputtering in the presence of at least one reactive gas containing at least one element selected from the group consisting of oxygen, nitrogen, and carbon, while

applying an electric power to the first and second targets at the same time, thereby forming a phase shifter film of a metal silicide compound on a transparent substrate.

4. (Withdrawn) The method of claim 3 wherein in the sputtering step, the surfaces of the first and second targets facing the transparent substrate are inclined at an angle of 30 to 60 degrees to the surface of the transparent substrate on which the phase shifter film is to be formed, and the transparent substrate is rotated about its axis.

5. (Withdrawn) The method of claim 3 wherein the molybdenum silicide as the first target has a molar ratio of silicon to molybdenum of up to 4, and the metal silicide as the second target has a molar ratio of silicon to metal of at least 18.

6. (Withdrawn) The method of claim 3 wherein said metal silicide compound is a silicide oxide, silicide nitride, silicide oxynitride, silicide oxycarbide, silicide nitride carbide or silicide oxide nitride carbide containing molybdenum and at least one metal selected from the group consisting of tantalum, zirconium, chromium, and tungsten.

7. (Withdrawn) The method of claim 3 wherein a DC, pulse DC or RF power supply is used to apply an electric power to the targets.

8. (Currently Amended) The halftone phase shift mask blank of claim 1 wherein an atomic ratio of the amount of molybdenum present in said metal silicide compound component

and to the total amount of component of said at least one of tantalum, zirconium, chromium and tungsten present in said metal silicide compound is are present in an atomic ratio between 100:1 and 2:1 in said metal silicide compound.

9. (Previously Presented) The halftone phase shift mask blank of claim 8 wherein the atomic ratio is between 20:1 and 4:1.

10. (Previously Presented) The halftone phase shift mask blank of claim 1 wherein the total content of molybdenum and said at least one of tantalum, zirconium, chromium and tungsten in said metal silicide compound is 1 to 20 at %.

11. (**Currently Amended**) The halftone phase shift mask blank of claim 10 wherein the content of silicene silicon in said metal silicide compound is 20 to 70 at %.

12. (Previously Presented) The halftone phase shift mask blank of claim 1 wherein said metal silicide compound is MoZrSiON, MoTaSiON or MoCrSiON,

13. (Withdrawn) A method of manufacturing a halftone phase shift mask blank of claim 1, comprising the steps of:

using molybdenum silicide as a first target and at least one metal silicide selected from the group consisting of tantalum silicide, zirconium silicide, chromium silicide, and tungsten silicide as a second target, and

carrying out reactive sputtering in the presence of at least one reactive gas containing at least one element selected from the group consisting of oxygen, nitrogen, and carbon, while applying an electric power to the first and second targets at the same time, thereby forming a phase shifter film of a metal silicide compound on a transparent substrate.

14. (Withdrawn) The method of claim 13 wherein in the sputtering step, the surfaces of the first and second targets facing the transparent substrate are inclined at an angle of 30 to 60 degrees to the surface of the transparent substrate on which the phase shifter film is to be formed, and the transparent substrate is rotated about its axis.

15. (Withdrawn) The method of claim 13 wherein the molybdenum silicide as the first target has a molar ratio of silicon to molybdenum of up to 4, and the metal silicide as the second target has a molar ratio of silicon to metal of at least 18.

16. (Withdrawn) The method of claim 13 wherein said metal silicide compound is a silicide oxide, silicide nitride, silicide oxynitride, silicide oxycarbide, silicide nitride carbide or silicide oxide nitride carbide containing molybdenum and at least one metal selected from the group consisting of tantalum, zirconium, chromium, and tungsten.

17. (Withdrawn) The method of claim 13 wherein a DC, pulse DC or RF power supply is used to apply an electric power to the targets.